We claim

1. A polyethylene composition with multimodal molecular mass distribution, which has a density in the range from 0.955 to 0.960 g/cm³ at 23 °C and an $MFI_{190/5}$ in the range from 0.8 to 1.6 dg/min, and which comprises from 45 to 55 % by weight of a low-molecular-mass ethylene homopolymer A, from 20 to 35 % by weight of a high-molecular-mass copolymer B made from ethylene and from another 1-olefin having from 4 to 8 carbon atoms, and from 20 to 30 % by weight of an ultrahigh-molecular-mass ethylene copolymer C, wherein all of the percentage data are based on the total weight of the composition.

2. A polyethylene composition as claimed in claim 1, wherein the high-molecular-weight copolymer B contains small proportions of from 0.1 to 0.6 % by weight of co-monomer having from 4 to 8 carbon atoms, based on the weight of copolymer B, and wherein the ultrahigh-molecular-mass ethylene copolymer C contains an amount in the range from 0.5 to 2.5 % by weight of co-monomers, based on the weight of copolymer C.

3. A polyethylene composition as claimed in claim 1 or 2, which, as a co-monomer, contains 1-butene, 1-pentene, 1-hexene, 1-octene, 4-methyl-1-pentene, or a mixture of these.

4. A polyethylene composition as claimed in one or more of claims 1 to 3, which has a viscosity number VN_{tot} of from 280 to 350 cm³/g, preferably from 300 to 320 cm³/g, measured to ISO/R 1191 in decalin at 135 °C,

5. A polyethylene composition as claimed in one or more of claims 1 to 4, which has a swell ratio in the range from 115 to 145 %, and a notched impact strength (ISO) in the range from 8 to 14 kJ/m², and a stress-crack resistance (FNCT) in the range from 8 to 20 h.

6. A process for producing a polyethylene composition as claimed in one or more of claims 1 to 5, in which the monomers are polymerized in slurry in a temperature range of from 20 to 120 °C at a pressure in the range of from 0.15 to 1 MPa, and in the presence of a high-mileage Ziegler catalyst composed of a transition metal compound and of an organoaluminum compound, which comprises conducting polymerization in three stages, wherein the molecular mass of the polyethylene prepared in each stage is regulated with the aid of hydrogen.

7. A process as claimed in claim 6, wherein the hydrogen concentration in the first polymerization stage is adjusted so that the viscosity number VN_1 of the low-molecular-mass polyethylene A is in the range of from 70 to 90 cm^3/g.

8. A process as claimed in claim 6 or 7, wherein the hydrogen concentration in the second polymerization stage is adjusted so that the viscosity number VN_2 of the mixture of polymer A and polymer B is in the range of from 150 to 200 cm^3/g.

9. A process as claimed in any of claims 6 to 8, wherein the hydrogen concentration in the third polymerization stage is adjusted so that the viscosity number VN_3 of the mixture of polymer A, polymer B, and polymer C is in the range of from 260 to 340 cm^3/g, in particular from 280 to 320 cm^3/g.

10. The use of a polyethylene composition as claimed in one or more of claims 1 to 5 for producing small blow moldings such as containers with a capacity in the range from 200 to 5000 cm^3 (= ml), where the polyethylene composition is first plasticized in an extruder in a temperature range of from 200 to 250 °C and is then extruded through a die into a mold, where it is blown up and then cooled and solidified thereby.

* * * * *